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ABSTRACT

This fastback explains that better teaching is the key to higher student achievement, and improving the quality of both teachers and their teaching is an important challenge for departments of education and schools nationwide. The fastback focuses on: "Enhancing Teacher Quality" (content knowledge, licensure and certification, and teaching out of field); "Enhancing Teaching Quality" (teacher observation and evaluation and teachers' beliefs about student learning); "Assigning Effective Teachers to Challenging Students"; "Professional Development" (teacher induction and mentoring programs, instructional coaching, and national teacher certification); and "Recruitment and Retention." Recommendations for schools to help ensure high quality teachers and teaching include: hire teachers with majors in their field and full professional certification; make student achievement a factor in teacher evaluation; encourage successful colleagues to provide ongoing support to novice teachers; expect high standards and high success for all students; remove ineffective teachers; end out-of-field teaching; and provide career ladders and other incentives to attract and keep high quality teachers. (Contains 46 references.) (SM)

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# Enhancing Teaching Quality

Leslie S. Kaplan and William A. Owings

2002

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Fastback

# Enhancing Teaching Quality

Leslie S. Kaplan
and William A. Owings



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Series Editor, Donovan R. Walling

# Enhancing Teaching Quality

by
Leslie S. Kaplan
and
William A. Owings

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# Introduction

Better teaching is the key to higher student achievement. Improving the quality of both teachers and their teaching is one of the more important challenges facing departments of education and schools throughout the nation.

Good teaching matters. For too long, we have mistakenly believed that students' family background and economic status primarily influenced their learning. Instead, the research strongly indicates that students who have had high-quality teachers for three consecutive years can make achievement gains that make them appear gifted (Sanders and Rivers 1996). Kati Haycock, Director of the Education Trust, writes that we could close the "achievement gap" between affluent white students and poor and minority students if principals assigned the best teachers to the students who most need them.

Ironically, at the same time that schools face increased pressure for student achievement, they also face a teacher shortage. Schools in the United States will have to hire 200,000 teachers annually for the next 10 years to address increasing student enrollments and teacher

retirements (Resta, Huling, and Rainwater 2001). For the foreseeable future, schools will face the multiple challenges of recruiting and keeping effective teachers while strengthening the teaching skills of those already in the classrooms.

Two broad areas determine teachers' effectiveness: the characteristics and skills they have before they enter the classroom, and how they teach once they are in the classroom. To distinguish between these areas, we will use the terms, "teacher quality" and "teaching quality." "Teacher quality" includes the teachers' aptitudes, professional preparation, college majors, teacher examination scores, teacher licensure and certification, and prior professional work experiences. "Teaching quality" includes creating a positive learning climate, selecting appropriate instructional goals and assessments, using the curriculum effectively, and employing varied instructional behaviors that help all students learn to high levels.

Both central office and site-based leaders play major roles in ensuring both teacher and teaching quality in their school. Understanding the essential research on both teacher and teaching quality and their relation to student learning can help educators significantly improve student achievement.

# Enhancing Teacher Quality

If teachers don't know enough, students cannot learn enough. In a 50-state survey, Darling-Hammond (2000) found that while student demographics (poverty, minority status, language background) are strongly related to student outcomes in reading and math at the state level, they are less influential in predicting individual achievement levels. Similarly, teacher preparation is a stronger correlate of student achievement than are class size, overall spending, or teacher salaries. The quality of teacher preparation accounts for 40% to 60% of the total variance in achievement after taking students' demographics into account.

The factors teachers bring to the classroom make a measurable difference in how well and how much students learn. Darling-Hammond found a number of factors that teachers bring to the classroom that could increase student achievement. These factors include teachers':

- Verbal ability.
- Content knowledge.

- Education coursework on teaching methods in their discipline.
- Scores on state licensing exams that measure both basic skills and teaching knowledge.
- Teaching behaviors, including purposefully and diagnostically using a broad repertoire of approaches that respond to student and curricular needs and giving student opportunities to learn criterion material.
- Ongoing, voluntary professional learning.
- Enthusiasm for learning.
- Flexibility, creativity, and adaptability.
- Amount of teaching experience.
- Asking students higher-order questions and probing their responses.
- Class sizes, planning time, opportunities to work with colleagues, curricular resources.

## Content Knowledge

Students of teachers with college majors or minors in the subjects they are teaching — especially in secondary math and science — perform higher on measured achievement than do students of teachers without this strong content knowledge (Blair 2000; Goldhaber and Brewer 1999; Haycock 1998, 2000; Wenglinsky 2000). Wenglinsky (2000), looking at eighth-graders' performances on math and science, found that students whose teachers majored or minored in the subject they were teaching outperform their peers by about 40% of a grade level in both math and science. The data are less clear

for teaching English and social studies, but evidence suggests that teacher content knowledge in these disciplines is no less important (Haycock 1998).

No evidence suggests that possessing content knowledge is, by itself, sufficient for effective teaching (Berry 2001). Some researchers claim that the connection between teachers' subject knowledge and student achievement is mixed, positively influencing student learning up to a certain level of basic competence, but less important after that (Darling-Hammond 2000; Monk 1994).

In fact, studies show that both knowledge of subject matter and of teaching and learning is strongly correlated with teachers' classroom performance (Guyton and Farokhi 1987). Teacher education coursework is sometimes more influential than extra coursework in the subject for promoting students' math and science achievement (Monk and King 1994).

However, strong content knowledge and verbal skills have strong empirical links to higher student achievement, while the effects of education coursework are less certain. "Neither education courses completed, advanced education degrees, scores on professional knowledge sections of licensure exams nor . . . year of experience seem to have a clear relationship to student achievement" (Haycock 1998, p. 3).

## Licensure and Certification

Licensure and certification relate to formal state approval of a teaching candidate's credentials for profes-

sional practice. For many purposes, the terms may be used interchangeably. They both serve as professional benchmarks for teacher quality and reflect strongly on the effectiveness of teacher preparation programs.

Because a teacher's content knowledge is a recognized factor in student achievement, holding teachers to high standards means ensuring that they have the subject knowledge essential to quality teaching and high student learning. Teacher licensure or certification is a state's way of verifying teacher competence. A teaching candidate's passing score on a standardized test — such as the Educational Testing Service's Praxis II test or on such state-designed tests as the Massachusetts Educator Certification Tests — is frequently one of a state's requirements (as a minimum standard) for initial teacher certification.

The most consistent significant predictor of student achievement in reading and math is the proportion of teachers in a state with full certification and a major in the field they teach, and the strongest consistently negative predictor of student achievement is the proportion of new teachers who are uncertified (Darling-Hammond 2000). One study of more than 1,000 school districts concludes that additional funds spent on more highly qualified teachers nets greater improvements in student achievement than does any other school resource (Ferguson 1991).

State licensing standards may not guarantee teacher quality because they may not require enough content knowledge to help all students learn to high levels. For example, while 44 states require candidates for secon-

dary licenses to take some kind of licensing exam, only 29 require them to take tests in the subjects they will teach. According to Mitchell and Barth, "most of the content on licensing exams is most typically found in high school curricula . . . never at the level of a bachelor's degree" (1999, p. 15). In addition, licensing requirements tend to emphasize pedagogy over content knowledge (Mitchell and Barth 1999), and minimum passing scores vary from state to state.

Some states are planning to administer competency tests to veteran educators to ensure that they have mastered their subjects. In Massachusetts, for example, the state board of education adopted a "first-in-the-nation" policy in May 2000 to test middle and high school math teachers in districts where more than 30% of the students (minus non-English speakers and new arrivals) fail the math section of the Massachusetts Comprehensive Assessment System (MCAS).

While certification to teach a subject and the teaching candidate's college coursework may not tell a principal everything he or she needs to know about a prospective teacher, they do provide critical information that is needed before the teacher is hired.

## Teaching Out of Field

One of the least recognized causes of underqualified teachers in the classroom is assigning "otherwise qualified" teachers to teach subjects in which they lack minimal academic credentials. One-third of all secondary school math teachers have neither a major nor a minor

in math or in such related disciplines as physics, engineering, or math education. Nearly one-quarter of all secondary school English teachers lack majors or minors in English, literature, communications, speech, English education, or reading education. More than half the secondary school students enrolled in chemistry, physics, earth science, and space science are trying to learn from teachers who did not major or minor in any physical science. The situation for social science and social studies teachers is worse (Ingersoll 2001).

Out-of-field teaching varies across schools, teachers, and classrooms. Recently hired teachers are more often assigned to teach subjects out of their field than are more experienced teachers, and low-income public schools have more out-of-field teachers than do affluent schools. Smaller schools, junior high schools, and lower-achieving classes also are more likely to have out-of-field teachers (Ingersoll 2001).

Disagreement exists about the percent of "out-of-field" teachers. Using the term "secondary" school includes teachers eligible for middle school certification without majors in their teaching field. Moreover, not all colleges require students to declare formal academic "minors," even though students may take many courses in a desired concentration but fewer than qualify as a "major." For example, depending on how one identifies out-of-field teachers, either more than half (Ingersoll 2001) or only 14% of high school students taking physical science have teachers who lack a certificate as well as a degree or minor in one of the physical sciences (Ballou and Podgursky 1997). These differences hold true for all teaching areas.

The national move to increase tougher teacher entry criteria and enact teacher certification requirements will not end out-of-field teaching assignments if central office administrators and principals continue to assign teachers to subjects for which they are neither certified nor educated. This lack of fit between a teacher's training and assignment turns qualified into unqualified teachers, resulting in lower student achievement and increased teacher frustration.

# Enhancing Teaching Quality

Preparation programs, content knowledge, licensure, and certification programs affect teacher quality. However, what teachers *do* with what they know once they get inside the classroom — that is, teaching quality — is equally important. "Parents have always known that it matters a great deal which teachers their children get" (Haycock 1998, p. 3).

A recent study of almost 15,000 eighth-graders' math and science scores on the 1996 National Assessment of Educational Progress found that students tested more than one full grade level above their peers if their teachers had strong content knowledge and had learned to work with students who came from different cultures or had special needs (Blair 2000; Wenglinsky 2000). Similarly, students tested 72% ahead of their peers in math and 40% ahead in science if their teachers integrated hands-on learning and frequent in-class teacher assessments into their lessons. Students whose math teachers stressed critical thinking skills, such as writing about math, scored 39% higher.

Numerous studies from around the country report similar findings for every grade. What teachers do in

their classrooms makes an important difference in measured student achievement in otherwise similar groups of students. Over time, students with a series of effective teachers learn successfully and advance to challenging courses and continued education, creating multiple life options. Their peers who do not benefit from high-quality teaching perform poorly on assessments and lose educational, career, and lifestyle options.

Educators who want high-quality choices for all students must look more closely at the diverse factors contributing to teaching quality. They can enhance teaching quality and teachers' effectiveness through observing and evaluating instruction and coordinating a vision for philosophical beliefs about students and teaching.

While the research clearly supports the belief that high-quality teachers make measurable differences in student learning, most studies do not fully explore what teachers actually *do* that makes learning happen. Fortunately, there is growing evidence of a relationship between students' interest, investment, and success in schoolwork and their teachers' repertoire of techniques for student engagement (Brandt 1998; Hill and Crevola 1999; Strong et al. 1995; Wasley 1999; Wolfe 1998). In addition, effective teachers emphasize student effort, rather than ability, as an essential component of academic success (Haberman 1995).

## Teacher Observation and Evaluation

Principals usually observe and evaluate their teachers. To ensure high-quality teaching, there are some

indicators that principals and other evaluators should look for. In particular, observers should see:

- Students following specific, reasonable timelines and using clear rubrics that describe a continuum of quality, from unsatisfactory to excellent, helping students see concretely what high-quality work looks like.
- Students analyzing and reflecting on their own work.
- Students expressing their ideas freely without teasing or embarrassment from peers or teacher and without penalties for making mistakes early in the learning process.
- Teachers continually checking to see that their students understand material and providing prompt, specific, and, if needed, corrective feedback.
- Teachers using student assessment data to diagnostically plan instruction for individual students and the whole class, to determine student mastery, and to provide corrective feedback to students that they can use to increase learning.
- Teachers providing students with choices about what they study, with whom, and the manner in which they demonstrate learning.
- Teachers providing students with frequent occasions to work with peers to practice and apply learning, to solve problems, or to create products or performances.
- Teachers attracting students' attention and interest in learning through a variety of meaningful learning activities that make sense to students.

- Teachers providing direct instruction for specific skills and knowledge.
- Teachers aligning the taught and tested curriculum so that all students have opportunities to learn the content and skills on which their academic progress will be measured.
- Teachers connecting the curriculum to their students' own interests, life experiences, and prior learning.
- Students and teachers showing genuine sensitivity to different cultures, language needs, gender differences, and other experiences.

## Teachers' Beliefs About Student Learning

High-quality teaching requires more than just using instructional best practices. It also reflects teachers' views about learning, because these views will translate into teaching behaviors. Certain beliefs are especially essential for teachers working with underachieving students.

First, high-quality teachers have an unshakable belief in all students' ability to achieve at high levels. These teachers genuinely like and understand their students and their families, including at-risk students, and want to work with them. They are committed to each student's success and work to prevent failure. However, their orientation to their students is professional; while they deeply respect and care for their students, they do not require their students' "affection" as a prerequisite for learning (Haberman 1995).

High-quality teachers also believe that it is their responsibility to find ways to engage all their students in learning activities. They recognize the vital relationship between how they present their material and how well students will understand it and apply it to new situations. They believe in their own effectiveness, knowing that if they have a thorough understanding of their content and their students' individual learning needs, their students can learn anything (Owings and Kaplan 2001; DeLamater 1999). As a result, they make their classrooms interesting to students, and they search persistently for approaches that work best for each student (Haberman 1995). Effective teachers also believe that student effort, achievement, and improvement — not measured ability — determine student learning (Collopy and Green 1995; Haberman 1995).

In addition, teaching quality depends on teachers working collaboratively to ensure that weaker learners, with or without labels, have access to rigorous curriculum and classroom support. Teacher teams cooperate inside classrooms to instruct and assess students in a variety of ways. Likewise, teachers work regularly in teams composed of other teachers, administrators, parents, counselors, and resource educators to discuss and monitor ways to increase individual students' learning and achievement using classroom modifications and available resources.

# Assigning Effective Teachers to Challenging Students

Schools may actually be causing the underachievement that historically has been blamed on students' race, poverty, or family characteristics. Schools systematically assign these children a disproportionately large share of our weakest teachers (Haycock 2000). In any discussion of the quality of teachers and teaching, this issue must be addressed.

There is a strong bias in assigning students to teachers of different levels of effectiveness (Haycock 1998; Haycock 2000; Reeves 2000). Poor and minority students, who are most dependent on their teachers for content knowledge, are likely to be taught by teachers with the least content knowledge. Low-income and minority students are nearly twice as likely to have the most ineffective teachers and half as likely to be assigned to the most effective teachers (Hirsch, Koppich, and Knapp 1998; Sanders and Rivers 1996). Moreover, some data indicate that poor African-American students are less likely to have a well-qualified teacher than are poor white students (Kain and Singleton 1996).

Students who attend secondary schools in which 75% or more of the children are poor are 1.8 times as likely to be taught by teachers without a major in their fields as are students who attend secondary schools in which 10% or less of the students are poor. In addition, students who attend schools in which 75% or more of the students are black or Hispanic are 1.4 times as likely to be taught by a teacher without a major in the subject as are students in schools in which 90% or more of the students are white (Haycock 2000). There is much evidence that teachers with weaker academic content and verbal skills are more likely to be teaching in high-poverty or high-minority schools (Haycock 2000). These data make it appear that this disparity in teacher quality may not be an economic artifact; it may be a racial issue.

Haycock (1998) claims that a large part of the "achievement gap" between poor and minority children and others would disappear if all students had high-quality teachers. Ferguson (1998) writes that an increase of one standard deviation in the test scores of Alabama teachers who teach black children would produce a decline of about two-thirds in the black / white test score gap. Another study suggests that a 1% relative increase in teacher scores on the National Teacher Examination (NTE) would result in a 5% relative decline in the percentage of students who fail standardized competency exams (Strauss and Sawyer 1986).

The practice of assigning less-qualified teachers to poor and minority students holds clear implications for both equity and pragmatism. The No Child Left Behind

Act of 2001 increases the urgency of educating poor and minority students to high levels. School districts and principals now face increased accountability to ensure that all students reach the same high standard for graduation or school accreditation.

School leaders must bring high-quality teachers and teaching to the students who need them most. This means challenging the traditional school culture in which "the best teachers teach the best students." Teachers receive high prestige and other incentives for teaching "high track" courses, which enroll "disproportionately large numbers of white, Asian, and upper-income students" (Haycock 2000, p. 11).

Education leaders must avoid concentrating beginning teachers in schools with large numbers of poor and minority children. They must stop assigning novice teachers almost exclusively to the lowest-achieving students in the poorest schools. Districts can stop hiring uncredentialed teachers or, at least, ensure that new teachers demonstrate mastery of the subjects they will teach.

Districts can provide attractive incentives for qualified teachers to work with poor and minority children. Some strategies are targeting highly compensated "mentor" positions to needy schools and student populations, working with local universities to recruit and develop high-quality new teachers, and offering professional induction programs for working successfully with highly challenging students (Haycock 1998). In addition, the district policies that reward mature teachers with the "right" to transfer to "easier" schools should

be changed to consider a broader context of higher achievement for all students.

Educators and their larger communities must increasingly celebrate and raise the professional status of teachers who successfully help underserved students. At the very least, principals must ensure that poor and minority children have teachers who are at least as qualified as the ones that teach wealthier white students. It is a matter of basic justice.

# Professional Development

Professional development can be a useful tool for improving the quality of teaching and student achievement. However, professional development should be tied closely with actual classroom practice.

Professional development in cultural diversity, teaching students with limited English proficiency, and teaching special needs students are all linked to higher math test scores (Blair 2000; Wenglinsky 2000). Effective professional development also is linked to concrete teaching tasks, organized around problem solving, informed by research, and sustained over time by continuing coaching, collaboration, and conversation.

## Teacher Induction and Mentoring Programs

Teaching is the only profession without a built-in apprenticeship period, and preparation programs vary widely in the extent and quality of field experiences. Nevertheless, schools expect new teachers to do the same job as 15-year veterans. To make the job still more difficult for novices, teaching is frequently an isolating

profession with little support for peer sharing and encouragement. School districts need ways to sustain new teachers so they can keep and develop the teachers they hire.

New teachers who have the support of mentoring programs are more likely to stay in the profession and get beyond the initial classroom management concerns to better focus on student learning (Gold 1996). A number of districts, such as Cincinnati, Columbus, and Toledo in Ohio, and Rochester, New York, have reduced attrition rates for beginning teachers from more than 30% to less than 5% by providing expert mentors with release time to coach beginners in their first year (Darling-Hammond 2001).

Induction programs involve novice teachers in year-long activities with mature teachers to become familiar with the particular school and ways to meet the school's instructional and management expectations. The main components of such programs are sharing information, solving and preventing problems, and providing support. New teachers meet monthly with a senior teacher to discuss the "how-to's" of first-year teaching: how to compile a successful gradebook, how to manage a classroom, how to hold a parent-teacher conference, and other concerns. Novice teachers also may observe others' classrooms to note effective teaching practices.

Mentoring programs vary in structure and formality, depending on the school, the individuals involved, and the structure of the program. More than an orientation, mentoring provides a complete feedback loop on the most basic to the more complex aspects of teaching.

Moral support and practical advice help the novice teacher prevent problems and solve others during the early days of teaching.

There is little empirical evidence about the effects of different mentoring programs on both new teachers and their students. The literature provides no clear answers about the degree to which induction should focus on assistance or assessment; the types of mentorships; what standards should apply to the role, selection, and preparation of mentors, or how much time is necessary for effective mentor / mentee relationships. However, effective mentoring can help new teachers improve their teaching and remain in the profession.

## Instructional Coaching

Instructional coaching is a highly focused program of in-house professional development for educating teachers about the most recent research and classroom practices in teaching, curriculum, and assessment. Coaching "integrates teachers' learning with teachers' practice, gives participants ongoing feedback, and makes these activities a whole-school , collective endeavor (Guiney 2001, p. 741). Coaches work *with* teachers, rather than *teach* them.

In this professional development model, an expert "coach" — usually a former teacher with recognized skills — works in school with a group of teachers in an ongoing, high-quality consultation customized to teachers' and students' specific learning needs. Coaches model classroom teaching practices, team-teach with

colleagues to demonstrate new approaches, observe and provide specific feedback to teachers implementing the new practices, and organize teacher collaboration in evaluating student work (Guiney 2001). Working collaboratively with the teachers in their classrooms helps teachers enhance their skills.

The Boston Public Schools uses content coaches as a vehicle for school reform. Superintendent Thomas Payzant's goal for standards-based reform is to focus on instruction and on professional development to improve instruction and place a clear emphasis on helping teachers work together, make their work public, and end teacher isolation (Guiney 2001). Through weekly guidance and instructional modeling, teachers improve their teaching quality. In many of the schools that have been using coaching programs the longest, student scores on standardized tests are higher (Guiney 2001).

Many believe that teachers' ability to create a professional learning community is an essential part of improving teaching and student achievement. Professionals working together with a common purpose create opportunities for support, encouragement, detailed study of student achievement data, and problem solving.

## National Teacher Certification

Teachers need to keep developing their expertise and effectiveness with all students. The National Board for Professional Teaching Standards (NBPTS), established in 1987, sets high standards for what teachers know and do. The board operates a voluntary national system to

assess and certify teachers and to advance related education reforms (Harman 2001). Almost 10,000 teachers received NBPTS certification in 2000, up from 1,800 in 1998-99 (Bohen 2001; Harman 2001).

NBPTS certification is a 10-month process that focuses on the connection between teaching and student learning. Teachers produce a portfolio that includes videotapes and analyses of their lessons. The portfolios also include reflections on how to improve both the lesson and the learning. Teachers evaluate student data and products, learn to question their instructional decisions, and accept responsibility for student outcomes. As teachers document their practice, they change their perceptions about teaching and improve their classroom performance in ways that improve student learning (Bohen 2001).

Some universities have incorporated the NBPTS standards into teacher preparation and professional accreditation programs. The American Federation of Teachers and the National Education Association have jointly published a guidebook to help teachers gain this endorsement. Such prominent organizations as the Carnegie Foundation for the Advancement of Teaching, Teachers College Columbia University, and NCATE are helping the NBPTS meet its goals. Governors, state legislatures, and school boards are assisting school districts to provide a range of incentives for teachers to earn certification (Bohen 2001). Forty states already encourage teachers to seek NBPTS certification by offering financial reimbursements and salary supplements (Harman 2001).

However, no evidence exists that NBPTS certification correlates with measures of student achievement (Wilcox 2000). While educators can fully support clear standards, content, and pedagogy that enhance teaching and learning, they might want to wait for gains in student achievement before claiming that NBPTS certification ensures high-quality teaching.

# Recruitment and Retention

Finding and keeping high-quality teachers is a continuous challenge. Darling-Hammond (2001) notes that while the number of new teachers prepared annually — roughly 190,000 — is more than enough to satisfy the demand, schools face shortages of people certified in such subjects as math, physical science, special education, and bilingual education. Some districts also have difficulty hiring teachers willing to work for the salaries and under the conditions offered in specific locations. While some states have shortfalls, others have applicant surpluses. Wealthier districts have surpluses, and poorer districts have shortages. Moreover, almost 30% of new teachers leave within five years, with a higher attrition rate in disadvantaged districts.

Teacher retention also is a critical issue. In a large, national study, Ingersoll found that the "teacher shortage" is really a problem of a "revolving door," with 17% teacher turnover in 2000-2001 (2002, p. 21). About half of these move to a different school; and 51% leave the profession because of dissatisfaction with low salaries, lack of administrator support, and low student moti-

vation to learn or because of a desire to pursue careers outside of education. The effect of such high turnover rates on teaching and learning is devastating to student achievement.

State and local policies and practices for recruiting teachers, salaries and other incentives, and policies on hiring alternatively certified or uncertified teachers all affect the quality of the teachers and teaching in their schools.

One hindrance to recruiting and keeping high-quality teachers is the low salaries they are paid. While teachers have seen slight raises over the past several years, their salaries have not kept up with inflation. Ten years ago, U.S. teachers' salaries were 21% higher than those of the average full-time worker. By the 1999-2000 school year, that margin had fallen to 10% (Archer et al. 2001). A teacher in his or her twenties can expect to earn about $8,000 less per year than other college-educated professionals, and the gap widens to $24,000 for persons 44 to 55 years old. For those with a masters' degree, the gap climbs to $32,000 (Chase 2000). This makes attracting and retaining high-quality prospective educators more difficult.

Traditional teacher compensation plans pay for seniority, rather than performance. The number of years teaching plus bonuses for advanced formal coursework determine a teacher or administrator's salary. Many potential high-quality teachers want careers where their salary will keep pace with their performance, rather than their longevity (Finn and Madigan 2001). Thus some states and localities are experimenting with less traditional salary structures in an attempt to recruit and

retain high-quality teachers. In 2001 Iowa lawmakers replaced their traditional teacher compensation system with one that includes paying educators for performance in the classroom and students' achievement. The goal is to recruit "young stars to the state and retain veterans by rewarding their hard work with better pay and opportunities to advance their careers quickly" (Blair 2001, p. 24). Douglas County, Colorado, and Cincinnati schools also have pay-for-performance programs.

Concerns about pay-for-performance include finding enough funds to pay for all eligible educators who want to compete for them, locating enough qualified administrators to conduct needed teacher evaluations, designing ways for teachers to contest unfavorable evaluations, and deciding how to phase in the plan so all qualified teachers might participate. In addition, experienced teachers and teacher associations tend to prefer "neutral" salary practices that reward teacher seniority, courses taken, and additional degrees earned, rather than rewarding measurable accomplishments or productivity. Competing for bonus dollars or earning salary increases, they allege, reduces collaboration and collegiality, both of which harm the learning climate and student achievement.

In addition to competitive salaries and generous benefits, there are a variety of other incentives to recruit new teachers. Some localities offer such monetary inducements as relocation costs or signing bonuses for math, science, special education, and bilingual teachers.

A few school districts are "growing their own" teachers. For example, in May 2001 Palm Beach County,

Florida, signed contracts with 39 graduating high school students, each of whom was promised a teaching job with the district after completing college. The jobs depend on students maintaining a 2.5 or higher college grade point average, a background check, and complete requirements for a state teacher's license. All of those students participated in the Teacher Academy at their high school, a four-year program that gives students college-level courses on teaching and firsthand experiences. They are not required to accept the offers once they graduate (Archer 2001*a*).

Some schools use career ladders to keep their experienced teachers in the classroom and to provide support for beginning teachers. The Cincinnati Public Schools have a successful career ladder program that begins during the start of teacher education — the second year of college. Working with the University of Cincinnati and the Cincinnati Federation of Teachers, the district designed a five-year program with two degrees — one in the teacher's content discipline and a second in education. The program also includes a full-year internship that combines half-time teaching with university study. Interns work with mentor teachers in city schools, observing classrooms and tutoring students. In their fourth year, they student teach. In their fifth year, they receive a salary as half-time intern teachers with the support of university and school mentors. Outstanding performers receive early teaching contracts in March. Second-career candidates with bachelor's degrees can complete the program in two years, and teaching aides are encouraged to complete certification. With this

program, high performers have varied professional incentives to remain in teaching and improve their teaching quality.

Many school districts are advancing master teachers' careers with roles and responsibilities for professional development and teacher observation, coaching, and evaluation. In Florida, Illinois, Massachusetts, and New York, master teachers receive financial incentives to act as mentors to other educators (Archer 2001*c*). In Montgomery County, Maryland; Rochester, New York; and Seattle, Washington, teachers have several options for career advancement through instructional leadership. In Montgomery County, each school has its own staff development teacher working full-time as instructional coach. In addition, they help colleagues develop personal professional growth plans for continuous improvement. Rochester teachers teach students for part of the day and participate in division leadership activities for the rest.

Supporters of a leadership role for teachers say that teachers — with more instructional expertise, time, and credibility — are in a better position than are administrators to influence and improve other teachers' effectiveness (Archer 2001*b*).

One often expressed argument against asking prospective educators to meet stricter standards for content knowledge and certification is that it is in conflict with the goal of hiring more minority educators. This is largely a political argument. First, while providing U.S. classrooms with a diverse teacher corps has substantial merit for many reasons, ensuring that all teachers are

capable of teaching students to high levels will raise the achievement of all students, including students of color. Second, there is no lack of excellent minority teacher applicants. It just takes more effort for some school districts to recruit them.

Approaches that increase a school district's pool of talented minority educators include recruiting at colleges with large numbers of minority students, sending minority professionals on recruiting teams, teaching recruiters to understand other cultures, and removing negative stereotypes. Human resource personnel can use nontraditional networks — sororities and fraternities, campus organizations, the armed forces, community groups, and churches — for recruiting minority teachers (Jorgenson 2001). And minority professionals often are willing to enter teaching through such organizations as Teach for America, which has twice as many minorities as there are in education schools (Cohen and Hill 1998)

# Recommendations

Teacher quality involves what teachers bring to the classroom. What teachers know makes a difference in student learning. Knowledge of their subjects and licensure and certification practices have a demonstrated effect on how much students achieve.

Teaching quality involves what teachers do once they are in the classroom. Variables such as holding a common belief regarding student achievement, assigning quality teachers to challenging classes, and using best practices in observing and evaluating instruction also affect student achievement.

There are a wide variety of things that schools can do to ensure the best-quality teachers and teaching. Following are some recommendations.

- Hire teachers with majors in their field and full professional certification. Ask for evidence (verbal descriptions, student work samples, videos) of their effective classroom teaching. Make research-based instructional practices a central topic for employment interviews.
- Make teaching effectiveness a priority. Work closely with teachers in classroom observations and con-

ferencing. Ensure that all teachers know and use instructional best practices that promote all students' learning.

- Principals should visit all classrooms frequently for at least 10 minutes and look for instructional best practices, even when not part of a formal summative assessment. Teachers should receive specific feedback about their teaching.
- Make student achievement a factor in teacher evaluations.
- Consider equity, achievement, and accountability when making teaching assignments. The most challenging students require the most effective teachers.
- Encourage successful colleagues to provide ongoing and generous support to help novice teachers learn both the school's culture and how to analyze their instructional decisions to maximize student learning. Provide opportunities within the school day and throughout the year for collaborative lesson planning, peer coaching, observing and discussing lessons, and reflection.
- Provide extra mentoring, monitoring, professional development, and nurturing to teachers hired through alternative and emergency licenses during a teacher shortage to help them effectively manage and instruct their students. These newcomers need extra, focused attention if their students are to learn as well as peers in other classrooms and if the new teachers are not to leave the profession.
- Provide intensive support, specific feedback, and professional development for failing teachers.

When improvement does not occur, counsel the employee out of the profession or start nonrenewal proceedings.

- Expect high standards and high success for all students.
- Raise the bar on teacher preparation programs and ensure that only capable, well-prepared individuals become teachers, even in times of shortages.
- Create high-quality induction programs for new teachers. Beginning teachers who have high-quality mentoring by expert colleagues are less likely to leave teaching in the early years.
- Provide focused professional development to increase teaching quality.
- Remove ineffective teachers.
- End out-of-field teaching.
- Provide career ladders and other incentives to attract and keep high-quality teachers.
- Address new teachers' concerns about administrative support, student motivation and discipline, and opportunities to affect decision making to increase the likelihood of retaining them in your school.

High-stakes testing and greater accountability have made the need for high-quality teachers more urgent in recent years. But these should not be the only driving force for improving the quality of teaching that occurs in our nation's classrooms. We should do it because our children deserve no less.

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